Chapter 14. Alternatives Analysis

Alternatives to the Issuance of the General Order

In accordance with Section 15126.6 of the State CEQA Guidelines, a draft EIR must describe a reasonable range of alternatives to the proposed project that could feasibly enable the project's basic objectives to be met while reducing or eliminating any of the significant adverse impacts of the proposed project. As detailed in Chapter 2, "Program Description", the objectives of this project are to:

- comply with Section 13274 of the California Water Code and the judicial order by the Superior Court of California for the County of Sacramento by adopting statewide general WDRs for the discharge of dewatered, treated, or chemically fixed sewage sludge (biosolids) for beneficial use as a fertilizer and/or soil amendment;

- provide a regulatory framework for biosolids application to land that can be used by individual RWQCBs to act on NOIs filed by potential dischargers in a manner that avoids or mitigates potentially adverse environmental effects; and

- provide a flexible regulatory framework that allows implementation of a biosolids disposal program for land application operations at the regional level and contains requirements that are based on sound science and best professional judgment.

In this chapter, alternatives to the proposed project are described and the anticipated environmental impacts of the alternatives are compared with those analyzed for the proposed GO in Chapters 3-12 of this report. The alternatives analyzed in this chapter are described below.

No-Project Alternative

Under the No-Project Alternative, it is assumed that land application of biosolids would continue in its current form and be regulated by the RWQCBs through individual WDRs or exemptions and by county governments through local ordinances and regulations. Existing land application operations would continue and would be controlled by the conditions contained in their individual permits. Biosolids generation would continue to

increase as described in Chapter 2, and the amount of material going to land application sites would increase proportionately. The types of conditions and prohibitions placed on existing and new land application operations would be similar to those imposed in existing permits from the RWQCBs. Because it is not possible to predict how county and city governments might alter their regulation of land application of biosolids in the future if a statewide GO were not in place, it is assumed that local regulation would remain in its current form.

The objectives of the proposed project would not be met under this alternative. There would be no statewide, unified approach to regulation of land application with a streamlined permit review and CEQA documentation process. Decisions on use of the federal Part 503 regulations and levels of environmental protection would be made on an individual-project basis by the RWQCBs.

Modified GO Provisions and Specifications Alternative

Land application of biosolids, as allowed under the proposed GO, has the potential to result in several significant impacts. To provide for addressing these impacts while still meeting the objectives of the proposed project, an alternative was developed that incorporates the mitigation measures identified in Table ES-1 that are necessary to address potentially significant effects as modified provisions and specifications. These added provisions and specifications would be as follows:

- Dischargers shall provide sufficient information in their Pre-Application Reports to determine the potential for soil degradation or reduced land productivity and shall ascertain, or use the services of a qualified soil scientist or qualified agronomist to ascertain, that no such soil degradation or reduced land productivity will occur as a result of biosolids application.

- After an application of Class B biosolids, the discharger shall ensure that animals are not grazed on that land for at least 90 days.

- Prior to application of biosolids to agricultural land, the discharger shall enter site assessor parcel numbers into a statewide tracking system, accessible to the public, that can identify whether a parcel of land has received an application of biosolids.

- Land application of Class B biosolids shall be prohibited within ½ mile of areas defined as having a “high potential for public exposure”.

- Dischargers shall ensure that biosolids transporters develop truck routing plans that avoid traffic in primarily residential neighborhoods.

- All biosolids shall be transported in trucks that have been adequately cleaned to remove biosolids from the exterior of the vehicles prior to leaving the site of generation and the site of land application.

- There shall be no discharge of biosolids to uncultivated land or land otherwise undisturbed, or lands left fallow for more than 1 year without a site assessment being conducted for special-status plant and wildlife species or biologically unique or sensitive natural areas.

- There shall be no discharge of biosolids within 500 feet of enclosed water bodies potentially occupied by desert pupfish.

- The transport of biosolids shall not generate daily emissions of nitrogen oxides or particulate matter in excess of daily thresholds included in the policies of California air districts responsible for achieving attainment status under the federal and state Clean Air Acts.

- Dischargers shall control fugitive dust on unpaved access roads to land application sites.

- There shall be no discharge of biosolids to uncultivated land or land otherwise undisturbed without a cultural resources investigation being conducted, and if significant resources are found, development of a mitigation plan.

All other elements of the proposed GO are assumed to remain as described in Chapter 2 of this EIR.

Land Application Ban Alternative

Under this alternative, land application of biosolids would not be facilitated by regulation. Regulation of land application for agricultural, horticultural, silvicultural, or land reclamation purposes would be sufficiently restrictive to make the activity economically uncompetitive. Biosolids generators would be encouraged to pursue other options, such as use of landfills, incineration, and development of dedicated disposal sites (monofills). Each of these disposal options was mentioned in the scoping process. It is assumed that this policy approach would result in an effective ban on land application for beneficial reuse. Although this alternative does not meet the objectives of the proposed GO, it does reflect numerous comments received from the public during the scoping process requesting that the SWRCB consider biosolids disposal options rather than land application for beneficial reuse. This alternative is not considered the

environmentally superior alternative to the GO because it is not within the reasonable range of alternatives and it does not meet the project objectives.

This alternative would differ from the No-Project Alternative in that the current process of issuing individual WDRs through the RWQCBs (which is assumed under the No-Project Alternative) would be discouraged in favor of pursuit of other options. As stated above, individual WDRs would be discouraged through restrictive policies and permitting requirements.

Assuming that biosolids generation continues to increase as described in Chapter 2, the need for landfill space, new dedicated landfills (monofills), and incineration facilities are expected to increase. Biosolids treatment levels would be modified to meet the requirements for these disposal methods. The material would be transported by truck to the disposal facilities and it would be managed and disposed of according to current practice in the state.

Alternatives Considered but Rejected

A number of other potential project alternatives were considered through the EIR scoping process but were not selected for detailed evaluation in this EIR. CEQA guidelines Section 15126(d)(2) requires that these alternatives be briefly described and the reasons underlying their rejection be identified. The following alternatives were identified either by the SWRCB or individuals participating in the scoping process but have been rejected as infeasible.

- **Regulation through RWQCB General Orders.** This alternative would accomplish most of the proposed project objectives through issuance of GOs by each of the nine RWQCBs. These GOs might vary slightly from one region to the next, but would streamline the permitting process within each region. The alternative was rejected because it did not reduce any of the potential significant environmental effects of the proposed SWRCB GO.

- **Total Prohibition.** This alternative would place a total ban on the land application of biosolids in California. It was incorporated into the Land Application Ban Alternative, which is analyzed below.

- **Partial Prohibition (No Land Application over Enclosed Groundwater Basins).** This partial prohibition alternative would place lands overlying enclosed groundwater basins in the "exclusion area" category of the GO. The alternative was rejected because it did not reduce any of the potential significant effects of the proposed SWRCB GO. No evidence was found that indicated that

enclosed groundwater basins in the state were any more likely to have significant adverse water quality effects than other groundwater basins.

- **Engineered Monofills.** This alternative would direct biosolids to monofills engineered exclusively to receive this material. The impacts of diverting biosolids to disposal sites (including monofills) rather than to land application sites are considered in the Land Application Ban Alternative analyzed below.

- **In-Vessel Composting.** In-vessel composting is a biosolids treatment process that reduces the number of pathogens that remain in the material after other more typical treatment processes. This treatment could be used to reduce the potential for health-related impacts resulting from the biosolids transport and spreading operations. The alternative was rejected because it did not reduce any of the potential significant effects of the proposed SWRCB GO.

- **Worm Casings.** This alternative would direct biosolids to worm farms to provide a food source for worms. The alternative was rejected as infeasible because there is no evidence that there are adequate worm farming operations in the state to accommodate the volume of biosolids going to land application. Also, it is not clear whether this alternative would reduce or eliminate any of the significant adverse effects of the proposed project.

- **Incineration.** Incineration is a biosolids disposal method used by some POTWs in California. The impacts of using this disposal method are described in the analysis of the Land Application Ban Alternative.

- **Disposal at Atomic Testing Sites.** This alternative assumes that biosolids would be disposed of on lands previously used to test atomic weapons. No specific location for this activity was identified in the scoping comments; most of these sites in the western United States are located in Nevada. Neither the SWRCB nor any of the RWQCBs have jurisdiction to approve or regulate the disposal of biosolids in Nevada; therefore, the alternative was rejected as infeasible.

- **Landfilling.** Landfilling of biosolids is a common practice in some regions of California; the effects of this disposal option are considered in the Land Application Ban Alternative.

- **Limit RWQCB Authority to Issue Waste Discharge Requirements for Land Application.** This alternative was identified during the informal discussion phase of the scoping process. The individual suggesting the alternative did not provide additional detail about the intent of limiting RWQCB authority over land application of biosolids. It is assumed that a narrower range of authority was being suggested, resulting in fewer approvals of land application operations. Because this alternative has not been described in sufficient detail for a

meaningful analysis to be conducted and changing the permitting authority for the land application of biosolids would not reduce environmental impacts, it has not been considered in detail in the EIR.

- **Modified GO , Providing More Local Control in Determining Exclusion Areas.** This Modified GO alternative would allow for local citizens to have a greater voice in the location of land application activities by determining what are appropriate exclusion areas on a case-by-case basis. The objective of the proposed GO is to provide a statewide program under state regulatory control; the exclusion areas have been identified based on existing state laws and plans that identify significant resources that should be protected from certain land use activities. The GO would no longer provide its programmatic function if local decisions on exclusions were made on a case-by-case basis. Local governments have the authority to exclude certain land use practices, including land application of biosolids, through their general planning or ordinance processes. These vehicles would be more effective at serving local interests for exclusions. For these reasons, this alternative was rejected as infeasible.

- **Modified Prohibitions Alternative.** An alternative was proposed during the scoping process that added more prohibitions to the GO. These additional measures included prohibition of storage, staging, and bulk application on lands having the following: less than 60 feet of depth to groundwater; land where the elevation is not at least 3 feet above the 100-year floodplain elevation; areas protected from flooding by levees; areas within the inundation zone of any dam or dam failure; areas within 850 feet of any water well; and any area within 850 feet from surface waters, including creeks, ponds and marshes, water supply ditches, and canals that discharge into surface waters. Although this alternative would have the potential for reducing some of the potential adverse effects of the proposed GO, the alternative was not carried into the EIR for more detailed analysis. A similar modified GO alternative has been developed that addresses each of the potentially significant adverse effects of the proposed GO; it is discussed below. A second modified GO alternative would be repetitive and redundant.

- **Crop Limitation Alternative.** Several suggestions were made during the scoping process that would limit the types of crops that could be grown on land that has received a biosolids application. It was suggested that fresh fruits and vegetables should not be grown on land application sites; also, it was suggested that only fiber and cover crops be allowed on land application sites. These suggestions were not carried forward into the EIR as an alternative because this alternative would not reduce any significant impacts of the proposed GO. The proposed GO would not result in any public health impacts related to the consumption of fresh fruits and vegetables.

- **Food Processing Waste Alternative.** An alternative was suggested through the scoping process that would separate food processing waste from other wastes. It is assumed that the individual suggesting this action sought to limit land application to food processing waste only. This food processing waste could be applied to the land without the potential adverse effects of applying human-derived waste products. The alternative was rejected because it does not meet any of the objectives of the proposed project; it does not address the land application of all sewage sludge and other biological solids as required by the state Water Code (Section 13274). The suggestion that human-derived biological solids not be applied to the land has been addressed in this EIR in the Land Application Ban Alternative (discussed on following pages).

Impact Comparison

No-Project Alternative

As described above, under this alternative land application of biosolids would probably continue to be regulated by the RWQCBs through individual WDRs or exemptions and by county governments through local ordinances and regulations.

Soils, Hydrology, and Water Quality

The water quality effects of biosolids land application under current regulation would be greater than those anticipated with implementation of the proposed GO. Current regulatory practice does not place restriction on the use of EQ biosolids, and it does not include the runoff control and setback requirements of the proposed GO. The potential for surface water or groundwater contamination from temporary storage of biosolids is greater under current conditions. In addition, the heavy metals cumulative loading restrictions currently being used (the Part 503 limits) do not account for the heavy metals content of soils before land application. Therefore, the potential for accumulating heavy metals in soil that could eventually affect surface water or groundwater would be greater.

Land Productivity

This alternative would have a greater potential for impacts on land productivity because the ceiling thresholds of various heavy metals concentrations would be higher for applied biosolids under the No-Project Alternative. Current use of the Part 503 cumulative heavy-metals limitations does not require the inclusion of background soil levels. Additionally, this alternative does not provide a means to address the cumulative loading

of molybdenum, which could result in greater impacts on grazing land productivity. The land application of EQ biosolids would remain unregulated, so long-term disposal operations could eventually affect land productivity through the creation of nutrient imbalances or heavy metals buildup to potentially phytotoxic levels.

Public Health

The No-Project Alternative has the potential to result in slightly greater impacts on public health because existing provisions designed to prevent groundwater contamination by biosolids (e.g., setbacks, minimum distance to wells, runoff controls, minimum depth to groundwater) are not as stringent as those included in the proposed GO. The RWQCBs could adopt stricter controls to protect public health in the future, but current practice does not include all of the controls mentioned above. In addition, current practice relies on the use of less reliable pathogen indicators (coliform bacteria) than are proposed in the GO (*Salmonella*). Therefore, higher levels of pathogens may be applied to the land under the No-Project Alternative than under the proposed GO.

Land Use and Aesthetics

The No-Project Alternative would result in land use impacts similar to those of the proposed GO because setbacks for all types of sensitive receptors (e.g., recreational areas, educational areas) are not defined. Aesthetic impacts (e.g., reduction in visual quality) associated with biosolid haulers using roadways through residential and recreational areas would also be similar under this alternative. Therefore, land use and aesthetic impacts would be considered significant because additional setbacks and defined truck access routes would not be required to help reduce visual and land use (e.g., traffic and noise) impacts on all types of sensitive receptors.

Biological Resources

This alternative would result in similar impacts on biological resources because the preparation of a specific site assessment for special-status plant and wildlife species and/or biologically unique or sensitive natural communities is not a requirement under the No-Project Alternative for areas that have not been disturbed within the last year. Therefore, biological resource impacts would be considered potentially significant because the appropriate site assessment (e.g., for special-status species, sensitive natural communities) would not be required to help identify and compensate for any potential impacts on biological resources in the application area before they are affected by land application.

Fish

Under this alternative, impacts on fisheries (e.g., acute toxicity) would be similar to those identified for the GO. Current practice provides for setbacks similar to those in the GO between land applications and water bodies with protected fish species. Because the land application of EQ biosolids is not regulated under current practice, there is some potential for adverse effects on fish where EQ material is applied or disposed of adjacent to streams.

Traffic

Under the No-Project Alternative, the potential for traffic safety hazards resulting from the accidental spill of biosolids on local and regional roadways would be slightly greater than those identified for the proposed GO. The No-Project Alternative does not require implementation of a Spill Prevention Plan. However, it should be noted that several counties currently require that transporters implement various emergency procedures, including those associated with an accidental spill of biosolids.

Air Quality

The No-Project Alternative would result in air quality impacts similar to those under the proposed GO because restrictions on the size and travel distance for specific biosolid application projects is not a requirement under either option. Air quality impacts could be significant because it is expected that application projects requiring more than 4,800 VMT daily would generate daily transportation and application-related NO_x emissions that would exceed significance thresholds for air districts where biosolids are applied in the greatest volumes.

In addition, current practice under the No-Project Alternative does not specifically restrict the movement of visible particulates from an application site. Therefore, it is possible that more nuisance particulates will escape land application sites under existing conditions than would occur under the proposed GO.

Noise

As described above under "Land Use and Aesthetics", the No-Project Alternative would result in noise impacts similar to those of the proposed GO because defined truck access routes would not be required to help reduce transportation-related noise impacts on residential land uses. Consequently, noise impacts would be considered significant because there would be no control on the use of delivery routes adjacent to residential

land uses. Also, setback requirements between land application operations and individual residences would be expected to be the same under both alternatives.

Cultural Resources

This alternative would result in impacts on cultural resources similar to those of the proposed GO because cultural resource surveys would not be required for land applications in areas that had not been previously disturbed. Cultural resource impacts would be considered potentially significant because no cultural resource survey would be conducted to identify significant resources before ground disturbance begins.

Modified GO Provisions and Specifications Alternative

As described above, this alternative addresses all the significant or potentially significant impacts resulting from implementation of the proposed GO and incorporates the mitigation measures identified in Table ES-1 as additional provisions or prohibitions..

Soils, Hydrology, and Water Quality

The Modified GO Alternative includes measures that should improve groundwater and surface water protection compared with the level of protection provided by the proposed GO. Although implementation of the proposed GO is not expected to result in significant water quality or hydrology effects, the GO modifications would include a data collection and evaluation step as part of the application process; this step would be designed to avoid application of biosolids in those unique settings where soil structure and chemistry could lead to leaching of nutrients or heavy metals into the groundwater. The additional data and evaluation would be especially valuable where biosolids land application was being planned over impaired or degraded groundwater basins. Professional help, as deemed necessary, would be required to estimate nitrogen application rates and appropriate irrigation management in areas where nitrate contamination of groundwater was judged to be a significant issue.

Land Productivity

The Modified GO Alternative would result in fewer land productivity impacts than the proposed GO because the development and analysis of soils data would be required to avoid land application in those parts of California where existing soil conditions could contribute to declines in land productivity. Therefore, the ability of the land to support

agricultural, horticultural, silvicultural, or land reclamation activities would be less likely to deteriorate over time because the implementation of these data collection and evaluation efforts would reduce the incidence of poor land management practices and minimize soil erosion. Additionally, under this alternative, biosolids application sites would be identified and monitored to address any potential public concerns regarding crop contamination.

Public Health

Even though land application under the proposed GO is not expected to result in significant health risks, application under the modified GO would reduce the risk of public health impacts compared with the risk under the proposed GO because the application of biosolids would be better controlled in regions of California where soil conditions could allow leaching of nitrates and metals into the groundwater. Collection and evaluation of soils data would be required as a condition of applying for WDRs under the modified GO. Consequently, public health impacts would be considered less than significant.

Land Use and Aesthetics

The Modified GO Alternative would result in fewer land use and aesthetic impacts than the proposed GO because the modified GO would include additional setbacks (up to 0.5 mile) for all sensitive land use areas and because the definition of an area having a "high potential for public exposure" would be expanded to include other sensitive land uses, such as hospitals and educational facilities. Consequently, land use and aesthetic impacts (i.e., disturbance through increased traffic and noise, odors, and visual impairment) would be considered less than significant because the setbacks would provide additional buffers to minimize these impacts.

Biological Resources

This alternative would be expected to result in fewer impacts on biological resources compared with the proposed GO because the preparation of a specific site assessment for special-status plant and wildlife species and/or biologically unique or sensitive natural communities would be a requirement under the Modified GO for areas that have not been disturbed within the last year. Therefore, biological resource impacts would be considered less than significant because the appropriate site assessment would help to identify and compensate for any potential biological resources in the project area before they were adversely affected.

Fish

Under this alternative, fisheries-related impacts would be less than those identified for the GO because additional setbacks would be required for land applications in the vicinity of internally drained water bodies with protected fish species.

Traffic

This alternative would result in traffic impacts similar to those of the proposed GO. No significant effects would be expected.

Air Quality

Under the proposed GO, the application of biosolids on sites that would require delivery truck traffic to exceed 4,800 vehicle miles per day would result in the generation of air emissions (e.g., combustion emissions, fugitive dust) that could exceed local air district thresholds for NO_x and PM10. The Modified GO Alternative would result in fewer air quality impacts because it includes provisions that restrict the amount of vehicle traffic that can be generated by an individual project. This restriction would ultimately reduce the potential for a specific project to exceed daily significance thresholds for emissions of NO_x, and PM10. Therefore, air quality impacts would be considered less than significant.

Noise

The application of biosolids has the potential to result in transportation-related noise impacts on sensitive receptors located along delivery routes. This alternative would result in fewer transportation-related noise impacts than the proposed GO because the modified GO would restrict the use of delivery trucks near residential land uses to the extent possible. Consequently, noise impacts would be considered less than significant.

Cultural Resources

This alternative would reduce the chance of damaging cultural resources because cultural resource surveys would be a prerequisite to applying biosolids in areas that had not previously been disturbed. Cultural resource impacts would be considered less than significant because the cultural resource investigation would help to identify any potential resources in the project area before they were adversely affected.

Land Application Ban Alternative

As more fully described earlier, the land application of biosolids would not be facilitated by regulation under this alternative. Biosolids generators would be encouraged to pursue other management options such as use of landfills, incineration, and development of dedicated disposal sites.

Soils, Hydrology, and Water Quality

Under the Land Application Ban Alternative, biosolids reuse would not have an effect on surface water or groundwater quality. Biosolids currently being applied to the land would eventually be diverted to disposal operations. Additional land application sites would not be developed. With these materials going to landfills, monofills, or incinerators, the potential for water quality effects would be reduced. Landfills and monofills are strictly regulated for contamination of surface water and groundwater. Most of these facilities have natural or manufactured liners that catch leachate, or they have extensive leachate collection systems that minimize percolation of contaminants to groundwater. Newly developed landfills or monofills would be expected to include state-of-the-art leachate control systems. Incinerators are enclosed facilities that do not generate a significant liquid waste stream. It is assumed that incinerator ash would be disposed of in an appropriate landfill.

Land Productivity

Under the Land Application Ban Alternative, adverse crop and soil productivity impacts associated with changes in soil nutrient levels and changes in heavy metal plant toxicity resulting from the application of biosolids would not occur. Additionally, public concerns over crop contamination from biosolids applications would not occur under this alternative. Other fertilization and soil amendment practices would continue to occur. These practices could include use of other organic fertilizers, such as manure. Use of chemical and manure-based fertilizers is not currently considered to have an effect on long-term land productivity. Studies are being undertaken, however, to determine the long-term effect of chemical fertilizer use on land productivity. Also, manure typically has a higher total dissolved solids content than biosolids, so changes in soil salinity could be more of an issue with manure use. Also, the loss of biosolids as a soil conditioner would have an adverse effect on land productivity in those situations in which there would be no option of using biosolids as an amendment on soils with low amounts of organic material.

Public Health

If biosolids reuse is abandoned in favor of disposal alternatives in the future, there would be additional demand for landfill or monofill space, or perhaps for added incinerators. If new facilities are placed in rural settings, as is normal, potentially productive land could be eliminated by construction of facilities. These losses would be more long term than is likely at land application sites. This indirect effect of facilities siting efforts could be avoided if low-productivity lands were sought for new facilities.

Under this alternative, there would be no risk of human or animal disease from the land application of biosolids in agricultural, horticultural, silvicultural, or land reclamation settings. Land application would be discouraged and the pathogens and other contaminants in biosolids would not be placed in settings with a significant risk of public exposure. Most biosolids generated in the state would be transported to and disposed of in landfills, monofills, or incinerators. These types of facilities generally have stricter control on public access, so the potential for direct human contact would be substantially reduced.

One potential for an adverse effect under this alternative would be related to air emissions from biosolids incinerators. The increased incidence of biosolids incineration would create increases in emission of particulates and other potential air contaminants, affecting residents in the vicinity of the incinerator (see "Air Quality" below). Emission control facilities on incinerators could be used to reduce the significance of this effect.

Agricultural sites currently using biosolids for soil conditioning and as a source of nutrients could, in the future, receive animal manures as an alternative. The public health implications of this change have not been investigated extensively, but the use of animal manures is not currently actively regulated. Some additional public health effects could result from this change in fertilizer source.

Land Use and Aesthetics

The Land Application Ban Alternative would result in land use (e.g., traffic, noise) and aesthetic impacts (e.g., reduction in visual quality) similar to or greater than those of the proposed GO because of the need for increased Class II and Class III landfill space and more incinerators for biosolids disposal. This increased need for facilities has the potential to create greater land use and aesthetic impacts than the proposed GO because landfills and incinerators are much more visible elements of the landscape and have a much greater life expectancy than periodic land application.

Biological Resources

This alternative would be expected to result in similar but much less extensive impacts on biological resources than the proposed GO because the potential need to expand existing landfill and incineration areas might also affect special-status plant or wildlife species or biologically unique or sensitive natural communities located within the expansion areas. These areas would be much smaller than land application sites in general, but may be similar in size to previously undisturbed areas that might be affected under the proposed GO. Biological resource impacts would be potentially significant under this alternative, and the appropriate site assessments (e.g., for special-status species, sensitive natural communities) would be required to help identify and compensate for any potential biological resources in the expansion areas before they are adversely affected.

Fish

This alternative has the potential to result in fisheries impacts similar to those of the proposed GO because the potential need to expand existing landfill areas might also affect special-status fish species or biologically unique or sensitive natural communities located within the expansion areas. Fisheries impacts would be considered potentially significant under this alternative, and the appropriate site assessments (e.g., for special-status species, sensitive natural communities) would be required to help identify and compensate for any potential fisheries resources in the expansion area before they are adversely affected.

Traffic

Under the Land Application Ban Alternative, most biosolids would no longer be transported to agricultural, horticultural, silvicultural, or land reclamation areas as a source of nutrients and soil conditioning. Instead, this material would be transported to landfills, monofills, or incinerators for disposal. The truck traffic associated with moving this material to disposal sites rather than reuse sites may be greater or lesser than under the proposed GO, depending on the relative distances between these sites and the degree of dewatering that would take place before transport. However, with the effective ban on land application, those lands currently receiving biosolids would require other sources of nutrients and soil conditioners. Some level of truck traffic would be associated with supply of this replacement material. Consequently, it is likely that traffic related to switching from land application to disposal of biosolids would be greater than under the proposed GO. Also, a land application ban would not stop generators from using highways to transport biosolids out of the state.

Air Quality

This alternative would result in greater air quality impacts than the proposed GO. With an effective ban on land application, incineration of biosolid materials would be expected to increase, resulting in NO_x and PM10 emissions that could exceed local air district significance thresholds. Additionally, the incineration of biosolid materials may result in the release of minimal amounts of hazardous materials emissions, which may create a public health hazard. The transportation of fertilizers to existing agricultural operations and the delivery of biosolids materials to landfill areas would also result in elevated levels of transportation-related NO_x and PM10 emissions. Consequently, because of the increase in both incineration and transportation-related emissions and the potential to exceed local air district significance thresholds under the Land Application Ban Alternative, air quality impacts are expected to be greater under this alternative. Also, a land application ban would not stop generators from using highways to transport biosolids out of the state.

Noise

As described above in the traffic analysis, agricultural operations would continue to receive a source of nutrients and soil conditioning, resulting in a similar number of truck trips and resultant noise impacts. Additionally, under this alternative a number of truck trips associated with the transport of biosolids materials to out-of-state landfills and incineration sites would be generated, resulting in additional transportation-related noise impacts on sensitive receptors located along landfill access routes. Consequently, because of the increased noise levels caused by the additional number of trucks generated by the Land Application Ban Alternative, noise impacts are expected to be greater than for the proposed GO.

Cultural Resources

This alternative could result in cultural resource impacts similar to those described for the proposed GO. Previously undisturbed land could be used for construction of additional landfill, monofill, or incineration facilities as biosolids are diverted from land application. The size of lands needed for new facilities would be smaller than the total acreage used for land application, but the size may be similar to the amount of undisturbed land that would be used under the proposed GO. Significant cultural resource impacts could occur as new disposal facilities are constructed, making it necessary to conduct appropriate site surveys to avoid or develop compensation for cultural resources lost or damaged in the process.